Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period \_\_\_\_\_\_

Exploring Patterns

**Toothpick Function 1:** How many toothpicks does it take to make each figure?

Figure 3

Figure 2

Figure 1

1. Draw figures 4 and 5.

2. Explain a method for finding the total number of toothpicks in any figure number.

Use the figures to help explain your method.

3. Let represent the figure number and let represent the number of toothpicks.

Write a function rule that describes how to determine the total number of toothpicks

required to make each figure.

4. How many toothpicks would be in figure # 10?

5. Make a table of this function. 6. Make a graph of this function.

**Tile Function 2:** How many tiles does it take to make each figure?

Figure 3

Figure 2

Figure 1

7. Draw figures 4 and 5.

8. Explain a method for finding the total number of toothpicks in any figure.

Use the figures to help explain your method.

9. Let represent the figure number and let represent the number of tiles.

Write a function rule that describes how to determine the total number of tiles

required to make each figure.

10. How many toothpicks would be in figure # 10?

11. Make a table of this function. 12. Make a graph of this function.